

10/681,505  
Docket P17246

**Remarks:**

Reconsideration of the above referenced application in view of the enclosed amendment and remarks is requested. Applicants note with appreciation that the Examiner has allowed Claims 1-10 and 21-31. Claims 11 and 27 have been amended. Claim 27 is amended to correct a typographical error and the amendment does not change the scope or meaning of the claims. Claim 11 is amended to address the Examiner's rejection as discussed below. Existing Claims 1 to 31 remain in the application.

**ARGUMENT**

Claims 11-20 are rejected under 35 U.S.C. § 101 as non-statutory subject matter. This rejection is traversed based on the above amendment and following discussion.

The Examiner's rejection under § 101 is improper and should therefore be withdrawn. Since patent laws regarding non-statutory subject matter have not changed either by rule or legal precedent since the "Examination Guidelines for Computer-related Inventions Example: Automated Manufacturing Plant" were published by the USPTO, preceding the new interim guidelines, this § 101 rejection is improper and should be withdrawn. However, in order to expedite the issuance of this application, Applicant submits a responsive amendment.

The Examiner cites M.P.E.P. 2106 regarding Computer Related Inventions. Current laws and legal precedent clearly allow claims in the form of computer readable medium, also referred to as a *machine accessible medium*, as recited in claims 11-20, See *In re Beauregard*, 35 USPQ2d 1383 (CAFC 1995). The previous Examination guidelines clearly show that this type of claim is a *statutory computer program embodied on a computer-readable medium*, where the computer-readable medium is a carrier wave (see Example 13). Thus, the alternative description of machine accessible medium as described as "a carrier wave that encodes a data signal" in the Specification on page 11, is clearly statutory subject matter. Further, the burden is on the USPTO to set forth a *prima facie* case of unpatentability. The Examiner bears the burden of

10/681,505  
Docket P17246

establishing that a claimed invention is a natural phenomenon. Therefore, absent object evidence to support the position that the 'data signal' is a natural phenomenon, such a position would be untenable. M.P.E.P. § 2106 states that:

"When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized."

The computer accessible medium, as claimed, is a statutory article of manufacture claim. The carrier wave may be encoded with the "functional descriptive material." And as will be discussed below, a carrier wave is not intangible, as the Examiner asserts. Nor is whether a thing is "energy" the proper test. The proper test in this case is whether the thing is a "natural phenomenon." Until patent rules or legal precedent reverse this doctrine, computer accessible medium claims in the form of diskettes, optical drives, non-volatile memory and carrier wave signals are all statutory subject matter.

Although a complete explanation has not been made, the Examiner *seems* to assert, that a signal or "carrier means" is *non-statutory* because it is "energy" and presumably not "in a tangible medium" as the court in *In re Beauregard* held. As recited below, there is, however, legal precedent that shows that the view that there is nothing physical (i.e., tangible) about signals is incorrect.

"These claimed steps of "converting", "applying", "determining", and "comparing" are physical process steps that transform one physical, electrical signal into another. The view that "there is nothing necessarily physical about 'signals' " is incorrect. *In re Taner*, 681 F.2d 787, 790, 214 USPQ 678, 681 (CCPA 1982) (holding statutory claims to a method of seismic exploration including the mathematically described steps of "summing" and "simulating from"). The Freeman-Walter-Abele standard is met, for the steps of Simson's claimed method comprise an otherwise statutory process whose mathematical procedures are applied to physical process steps. "

*Arrhythmia Research Technology Inc. v. Corazonix Corp.* 22 USPQ2d 1033, 1038 (CAFC 1992).

10/681,505  
Docket P17246

"Appellants' claims are not in our view merely directed to the solution of a mathematical algorithm. Though the claims directly recite an algorithm, summing, we cannot agree that appellants seek to patent that algorithm in the abstract. Appellants' claims are drawn to a technique of seismic exploration which simulates the response of subsurface earth formations to cylindrical or plane waves. That that technique involves the summing of signals is not in our view fatal to its patentability. Appellants' claimed process involves the taking of substantially spherical seismic signals obtained in conventional seismic exploration and converting ("simulating from") those signals into another form, i.e., into a form representing the earth's response to cylindrical or plane waves. Thus the claims set forth a process and are statutory within §101.

Though the board conceded that appellants' process includes conversion of seismic signals into a different form, it took the position that "there is nothing necessarily physical about 'signals' " and that "the end product of [appellants' invention] is a mathematical result in the form of a pure number." That characterization is contrary to the views expressed by this court in *In re Sherwood*, 613 F.2d 809, 204 USPQ 537 (CCPA 1980), and *In re Johnson*, 589 F.2d 1070, 200 USPQ 199 (CCPA 1978), where signals were viewed as physical and the processes were viewed as transforming them to a different state." [emphasis added]

*In re Taner, Koehler, Anstey, and Castelberg*, 214 USPQ 678, 681 (CCPA 1982).

Thus, one can safely assume, until a court of higher authority holds otherwise, that signal or carrier wave claims are statutory in the same vein as computer readable, or machine accessible medium, or "Beauregard," claims. Moreover, a computer accessible medium in the form of a signal claim is also clearly statutory.

Therefore, Applicants amend Claim 11 to recite "An article of manufacture comprising a tangible machine accessible medium..." The use of the term "tangible" should successfully address the Examiner's assertion that Claims 11-20 are directed to intangible energy forms. However, as legal precedent will prove, carrier waves are tangible forms. Readers of this patent will be put on notice that the claims recite a machine accessible medium comprising tangible media such as solid-state memories, optical and magnetic disks, and a carrier wave that encodes a data signal, as described in the specification at paragraph 28. Should a higher court of law create

10/681,505  
Attorney Docket No.: P17246

legal precedent that defines carrier waves as intangible, then a reader of the patent will understand Claims 11-20 to exclude carrier waves as included in the recited "tangible machine accessible medium," and still is directed to statutory subject matter. Therefore, the addition of this term results in Claims 11-20 to be indisputably statutory and definite in their meaning to one of ordinary skill in the art.

### CONCLUSION

In view of the foregoing, Claims 1 to 31 are all in condition for allowance. If the Examiner has any questions, the Examiner is invited to contact the undersigned at (703) 633-6845. Early issuance of Notice of Allowance is respectfully requested. Please charge any shortage of fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 02-2666 and please credit any excess fees to such account.

Respectfully submitted,

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